

REMARKS

The present Amendment amends claims 1, 2, 5, 12, 18, 20, 22, and 23, cancels claims 19 and 24, and leaves claims 3, 4, 6-11, 13-17, and 21 unchanged. Therefore, the present application has pending claims 1-18 and 20-23.

Allowable Subject Matter

The Examiner indicates that claim 15 is allowed, and that claims 9-11, 17, 19 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

Regarding claims 9-11, it is noted that claim 9 is an independent claim. Therefore, it appears that the Examiner intended to indicate that claims 9-11 are allowed.

Regarding claim 19, Applicants have amended claim 18 to include the allowable subject matter of claim 19 (now canceled). Therefore, this objection regarding claim 19 is overcome and should be withdrawn.

Regarding claim 24, Applicants have amended claim 20 to include the allowable subject matter of claim 24 (now canceled). However, it should be noted that the subject matter of intervening claim 21 was not included in claim 20. Nonetheless, Applicants submit that this objection regarding claim 24 is overcome and should be withdrawn.

35 U.S.C. §102 Rejections

Claims 18 and 20-22 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,253,240 to Axberg et al. ("Axberg").

As indicated above, claim 18 was amended to include the allowable subject matter of claim 19. Therefore, claim 18 should be allowed.

Regarding the remaining claims 20-22, this rejection is traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 20-22 are not taught or suggested by Axberg, whether taken individually or in combination any of the other references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims to more clearly describe features of the present invention. Specifically, amendments were made to the claims to more clearly recite that the present invention is directed to a data storage system as recited, for example, in independent claim 20.

Claims 20-22

The present invention, as recited in claim 20, provides a data storage system where multiple computers and multiple external storage systems are connected to a network. In the data storage system, each computer installs an application for acquiring its own host logical configuration information, and each external storage system has an external connection interface that sends event information to define or refer to its configuration, to show performance and data, or to post a fault. The data storage system includes a management server part and a configuration information database. The management server part is connected to the external storage systems and accumulates a time for each event and the corresponding event information of the multiple external storage systems via the external connection interface into the configuration information database. In addition, the management server part is connected to the computers and accumulates host logical configuration information of the multiple computers via the network, in point of

time series. According to the present invention, the management server part includes a function that posts the time when the size of a file that an application of the computer uses reaches the capacity of a logical disk unit of the external storage system. The prior art does not disclose all these features.

The above described features of the present invention, as now more clearly recited in the claims, are not taught or suggested by any of the references of record, particularly Axberg, whether taken individually or in combination with any of the other references of record.

Axberg discloses a method for producing a coherent view of a storage network by a storage network manager using data storage device configuration information obtained from data storage devices. However, there is no teaching or suggestion in Axberg of a data storage system and control method of a data storage system of the present invention, as recited in the claims.

Axberg's method includes a distributed storage management program that manages a network. The network includes multiple data storage devices attached to multiple host computer systems. The management program includes a separate agent in each host, and a central manager. The agents gather data and communicate with the manager across a communications path that is independent of the storage network. The manager collates the data from different agents to produce a coherent view of the network. Preferably, each local agent actively builds an internal topological view of the network as seen by its host and collects data such as error events, which it stores in internal data structures. The manager is able to resolve gaps in the information of each agent from information provided by other agents. Preferably the manager presents the network as a collection of objects of

different classes in an object-oriented class library. This collection is graphically displayed in a logical and understandable manner to a user on a display device.

One feature of the present invention, as recited in claim 20, includes where the management server part is connected to the external storage systems and accumulates a time for each event and the corresponding event information of the multiple external storage systems via the external connection interface into the configuration information database. Axberg does not disclose this feature. To support the assertion that Axberg discloses where the management server part is connected to the external storage systems, the Examiner refers to Fig. 1. However, as shown in Fig. 1, the management server part (manager 110) is not connected to the external storage systems (disks 120-129) as claimed, but rather is connected to the local agent 111. To support the assertion that Axberg teaches where the management server part accumulates a time for each event and the corresponding event information of the multiple external storage systems via the external connection interface into the configuration information database, the Examiner cites column 19, lines 31-42 and column 21, lines 38-39. However, as asserted by the Examiner, the central manager periodically polls the local agent 112 — not the external storage systems (disks 120-129) — as claimed. In this way, Axberg does not disclose where event information of the external storage systems is accumulated into the configuration information database via the external connection interface of the external storage systems, as claimed. Even further, Axberg does not disclose where the management server accumulates a time for each event and the corresponding event information of the multiple external storage systems. Therefore, Axberg does not disclose this claimed feature.

Another feature of the present invention, as recited in claim 20, includes where the management server part includes a function that posts the time when the size of a file that an application of the computer uses reaches the capacity of a logical disk unit of the external storage system. Axberg does not disclose this feature. Furthermore, it should be noted that in the Office Action, the Examiner indicated that this feature, as was recited in canceled claim 24, was allowable subject matter.

Therefore, Axberg fails to teach or suggest “wherein the management server part is connected to said external storage systems and accumulates a time for each event and the corresponding event information of said multiple external storage systems via said external connection interface into said configuration information database” as recited in claim 20.

Furthermore, Axberg fails to teach or suggest “wherein said management server part comprises a function that posts the time when the size of a file that an application of said computer uses reaches the capacity of a logical disk unit of said external storage system” as recited in claim 20.

Therefore, Axberg does not teach or suggest the features of the present invention, as recited in claims 20-22. Accordingly, reconsideration and withdrawal of the 35 U.S.C. §102(e) rejection of claims 20-22 as being anticipated by Axberg are respectfully requested.

35 U.S.C. §103 Rejections

I. Claims 1-8 and 12-14

Claims 1-8 and 12-14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Axberg in view of U.S. Patent No. 5,996,046 to Yagisawa et al. ("Yagisawa"). This rejection is traversed for the following reasons. Applicants submit that the features of the present invention, as now more clearly recited in claims 1-8 and 12-14, are not taught or suggested by Axberg or Yagisawa, whether taken individually or in combination with each other in the manner suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims to more clearly describe features of the present invention. Specifically, amendments were made to the claims to more clearly recite that the present invention is directed to a control method of a data storage system as recited, for example, in independent claims 1, 2, 5, and 12.

A. Claims 1-4

The present invention, as recited in claim 1, and as similarly recited in claim 2, provides a control method of a data storage system. In the system, multiple external storage systems are connected to a first network, and each of the storage systems is arranged separately. The control method includes the steps of generating an interrupt by an external storage system to a management server and issuing an exclusive control command by the management server to the external storage system. According to the present invention, the exclusive control command temporarily limits access to the external storage system such that the management

server is the only control server that enables configuration setting of the data storage system. The management server receives configuration information from the external storage system in response to the exclusive control command. The method also includes a step of storing the configuration information received by the management server in a database at the management server. The prior art does not disclose all these features.

The above described features of the present invention, as now more clearly recited in the claims, are not taught or suggested by any of the references of record. Specifically, the features are not taught or suggested by either Axberg or Yagisawa, whether taken individually or in combination with each other.

As previously discussed, Axberg discloses a method for producing a coherent view of a storage network by a storage network manager using data storage device configuration information obtained from data storage devices. However, there is no teaching or suggestion in Axberg of a control method of a data storage system as recited in claims 1 and 2 of the present invention.

One feature of the present invention, as recited in claim 1, and as similarly recited in claim 2, includes issuing an exclusive control command by the management server to the external storage system. According to the present invention, the exclusive control command temporarily limits access to the external storage system such that the management server is the only control server that enables configuration setting of the data storage system. As described on page 5, lines 22-23 of the present application, an exclusive control command temporarily limits access to all multiple disk subsystems. In this way, as described on page 12, lines 17-21, the management server becomes the only control server that enables

the configuration setting of the whole system. Axberg does not disclose this feature. To support the assertion that Axberg discloses issuing exclusive control commands, the Examiner cites: column 14, lines 29-40; column 16, line 43 to column [1]8, line 10; column 19, lines 11-20; and Fig. 10. However, the commands cited by the Examiner are not exclusive control commands, as claimed. Therefore, Axberg does not disclose this feature.

Another feature of the present invention, as recited in claim 1 and as similarly recited in claim 2, includes a step of receiving by the management server configuration information from the external storage system in response to the exclusive control command. Axberg does not disclose this feature. To support the assertion that Axberg discloses this feature, the Examiner cites: column 14, lines 29-40; column 19, lines 43-65; and column 19, lines 47-51. As previously discussed, Axberg does not teach or suggest providing an exclusive control command, as claimed. It necessarily follows that Axberg does not teach or suggest receiving by the management server, configuration information from the external storage system in response to an exclusive control command.

Therefore, Axberg fails to teach or suggest “issuing an exclusive control command by said management server to said external storage system, wherein said exclusive control command temporarily limits access to said external storage system such that said management server is the only control server that enables configuration setting of the data storage system” as recited in claim 1, and as similarly recited in claim 2.

Furthermore, Axberg fails to teach or suggest “receiving by said management server, configuration information from said external storage system in response to said command” as recited in claim 1, and as similarly recited in claim 2.

The above noted deficiencies of Axberg are not supplied by any of the other references of record, namely Yagisawa, whether taken individually or in combination with each other. Therefore, combining the teachings of Axberg and Yagisawa in the manner suggested by the Examiner still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Yagisawa teaches a parity generation system for generating new parity using old data in temporary storage, without accessing the main disk storage of a disk drive. However, there is no teaching or suggestion in Yagisawa of the control method of a data storage system as recited in claims 1 and 2 of the present invention.

Yagisawa discloses a computer system having a host system, which includes a plurality of disk devices, a CPU, a main memory and a disk control circuit for controlling the disk devices. According to the present invention, a host CPU executes a program unit to generate intermediate data for parity generation and holds it in a data holding unit to asynchronously conduct a data write process and a parity write process. A unit for generating parity and a unit for transferring data operate without the intervention of the CPU in accordance with a command issued by the program unit executed by the host CPU.

One feature of the present invention, as recited in claim 1, and as similarly recited in claim 2, includes issuing an exclusive control command by the management server to the external storage system. According to the present

invention, the exclusive control command temporarily limits access to the external storage system such that the management server is the only control server that enables configuration setting of the data storage system. Yagisawa does not disclose this feature, and the Examiner does not rely upon Yagisawa for teaching issuing an exclusive control command.

Another feature of the present invention, as recited in claim 1 and as similarly recited in claim 2, includes a step of receiving by the management server configuration information from the external storage system in response to the exclusive control command. Yagisawa does not disclose this feature, and the Examiner does not rely upon Yagisawa for teaching this feature.

Therefore, Yagisawa fails to teach or suggest “issuing an exclusive control command by said management server to said external storage system, wherein said exclusive control command temporarily limits access to said external storage system such that said management server is the only control server that enables configuration setting of the data storage system” as recited in claim 1, and as similarly recited in claim 2.

Furthermore, Yagisawa fails to teach or suggest “receiving by said management server, configuration information from said external storage system in response to said command” as recited in claim 1, and as similarly recited in claim 2.

B. Claims 5-8

The present invention, as recited in claim 5, provides a control method of a data storage system where multiple computers and multiple external storage systems are connected to a network. The method includes the steps of logging on to

a management server to request access permission and issuing an exclusive control command by the management server to the external storage systems. According to the present invention, the exclusive control command temporarily limits access to the external storage systems such that the management server is the only control server that enables configuration setting of the data storage system. The method also includes the steps of receiving by the management server from the external storage systems in response to the exclusive control command and storing configuration information received by the management server in a database at the management server. The prior art does not disclose all these features.

The above described features of the present invention, as now more clearly recited in the claims, are not taught or suggested by any of the references of record. Specifically, the features are not taught or suggested by either Axberg or Yagisawa, whether taken individually or in combination with each other.

As previously discussed, Axberg discloses a method for producing a coherent view of a storage network by a storage network manager using data storage device configuration information obtained from data storage devices. However, there is no teaching or suggestion in Axberg of a control method of a data storage system of the present invention, as recited in the claims.

One feature of the present invention, as recited in claim 5, includes issuing an exclusive control command by the management server to the external storage systems. According to the present invention, the exclusive control command temporarily limits access to the external storage systems such that the management server is the only control server that enables configuration setting of the data storage system. As described on page 5, lines 22-23 of the present application, an exclusive

control command temporarily limits access to all multiple disk subsystems. In this way, as described on page 12, lines 17-21, the management server becomes the only control server that enables the configuration setting of the whole system. As previously discussed with regard to the rejection of claim 1, Axberg does not teach this feature. The commands cited by the Examiner are not exclusive control commands, as claimed. Therefore, Axberg does not disclose this feature.

Another feature of the present invention, as recited in claim 5, includes a step of receiving by the management server configuration information from the external storage systems in response to the exclusive control command. Axberg does not disclose this feature. As previously discussed, Axberg does not teach or suggest providing an exclusive control command, as claimed. It necessarily follows that Axberg does not teach or suggest receiving by the management server, configuration information from the external storage systems in response to an exclusive control command.

Therefore, Axberg fails to teach or suggest "issuing an exclusive control command by said management server to said external storage systems, wherein said exclusive control command temporarily limits access to said external storage systems such that said management server is the only control server that enables configuration setting of the data storage system" as recited in claim 5.

Even further, Axberg fails to teach or suggest "receiving by said management server, configuration information from said external storage systems in response to said command" as recited in claim 5.

The above noted deficiencies of Axberg are not supplied by any of the other references of record, namely Yagisawa, whether taken individually or in combination

with each other. Therefore, combining the teachings of Axberg and Yagisawa in the manner suggested by the Examiner still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

As previously discussed, Yagisawa teaches a parity generation system for generating new parity using old data in temporary storage, without accessing the main disk storage of a disk drive. However, there is no teaching or suggestion in Yagisawa of the control method of a data storage system as recited in claim 5 of the present invention.

One feature of the present invention, as recited in claim 5, includes issuing an exclusive control command by the management server to the external storage system. According to the present invention, the exclusive control command temporarily limits access to the external storage systems such that the management server is the only control server that enables configuration setting of the data storage system. Yagisawa does not disclose this feature, and the Examiner does not rely upon Yagisawa for teaching issuing an exclusive control command.

Another feature of the present invention, as recited in claim 5, includes a step of receiving by the management server configuration information from the external storage system in response to the exclusive control command. Yagisawa does not disclose this feature, and the Examiner does not rely upon Yagisawa for teaching this feature.

Therefore, Yagisawa fails to teach or suggest “issuing an exclusive control command by said management server to said external storage systems, wherein said exclusive control command temporarily limits access to said external storage

systems such that said management server is the only control server that enables configuration setting of the data storage system” as recited in claim 5.

Even further, Yagisawa fails to teach or suggest “receiving by said management server, configuration information from said external storage systems in response to said command” as recited in claim 5.

C. Claims 12-14

The present invention, as recited in claim 12, provides a control method of a data storage system where multiple computers and multiple external storage systems are connected to a network. The method includes the steps of issuing an exclusive control command by a management server to multiple external systems and receiving by the management server configuration information from the external storage systems in response to the exclusive control command. According to the present invention, the exclusive control command temporarily limits access to the multiple external storage systems such that the management server is the only control server that enables configuration setting of the data storage system. The method also includes the steps of activating application programs of the multiple computers based on the exclusive control command issued by the management server and receiving by the management server host configuration information from the multiple computers. Another step of the method includes storing in a database at the management server the received configuration information and host logical configuration information. The prior art does not disclose all these features.

The above described features of the present invention, as now more clearly recited in the claims, are not taught or suggested by any of the references of record.

Specifically, the features are not taught or suggested by either Axberg or Yagisawa, whether taken individually or in combination with each other.

As previously discussed, Axberg discloses a method for producing a coherent view of a storage network by a storage network manager using data storage device configuration information obtained from data storage devices. However, there is no teaching or suggestion in Axberg of a data storage system and control method of a data storage system of the present invention, as recited in the claims.

One feature of the present invention, as recited in claim 12, includes a step of issuing an exclusive control command by a management server to multiple external storage systems. According to the present invention, the exclusive control command temporarily limits access to the multiple external storage systems such that the management server is the only control server that enables configuration setting of the data storage system. As described on page 5, lines 22-23 of the present application, an exclusive control command temporarily limits access to all multiple disk subsystems. In this way, as described on page 12, lines 17-21, the management server becomes the only control server that enables the configuration setting of the whole system. As previously discussed with regard to the rejection of claim 1, Axberg does not teach this feature. The commands cited by the Examiner are not exclusive control commands, as claimed. Therefore, Axberg does not disclose this feature.

Another feature of the present invention, as recited in claim 12, includes a step of receiving by the management server configuration information from the external storage systems in response to the exclusive control command. Axberg does not disclose this feature. As previously discussed, Axberg does not teach or

suggest providing an exclusive control command, as claimed. It necessarily follows that Axberg does not teach or suggest receiving by the management server, configuration information from the external storage systems in response to an exclusive control command.

Yet another feature of the present invention, as recited in claim 12, includes a step of activating application programs of the multiple computers based on the exclusive control command issued by the management server. Axberg does not disclose this feature. To support the assertion that Axberg teaches this feature, the Examiner cites column 19, lines 31-42, which provides that a local library is activated upon receiving a call from the central manager. As previously discussed, Axberg does not teach or suggest providing an exclusive control command, as claimed. It necessarily follows that Axberg does not teach or suggest activating application programs of the multiple computers based on the exclusive control command issued by the management server. Furthermore, activating the local library based upon the receipt of "a call" from the central manager, as disclosed in Axberg is quite different from activating application program based on an exclusive control command from the management server, as in the present invention.

Therefore, Axberg fails to teach or suggest "issuing an exclusive control command by said management server to multiple external storage systems, wherein said exclusive control command temporarily limits access to said multiple external storage systems such that said management server is the only control server that enables configuration setting of the data storage system" as recited in claim 12.

Furthermore, Axberg fails to teach or suggest “receiving by said management server configuration information from said external storage systems in response to said command” as recited in claim 12.

Even further, Axberg fails to teach or suggest “activating application programs of said multiple computers based on said exclusive control command issued by the management server” as recited in claim 12.

The above noted deficiencies of Axberg are not supplied by any of the other references of record, namely Yagisawa, whether taken individually or in combination with each other. Therefore, combining the teachings of Axberg and Yagisawa in the manner suggested by the Examiner still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

As previously discussed, Yagisawa teaches a parity generation system for generating new parity using old data in temporary storage, without accessing the main disk storage of a disk drive. However, there is no teaching or suggestion in Yagisawa of the control method of a data storage system as recited in claim 12 of the present invention.

One feature of the present invention, as recited in claim 12, includes a step of issuing an exclusive control command by a management server to multiple external storage systems. According to the present invention, the exclusive control command temporarily limits access to the multiple external storage systems such that the management server is the only control server that enables configuration setting of the data storage system. As previously discussed with regard to the rejection of claim 1, Yagisawa does not teach this feature, and the Examiner does not rely upon Yagisawa for teaching an exclusive control command, as claimed.

Another feature of the present invention, as recited in claim 12, includes a step of receiving by the management server configuration information from the external storage systems in response to the exclusive control command. Yagisawa does not disclose this feature, and the Examiner does not rely upon Yagisawa for teaching this feature.

Yet another feature of the present invention, as recited in claim 12, includes a step of activating application programs of the multiple computers based on the exclusive control command issued by the management server. Yagisawa does not disclose this feature, and the Examiner does not rely upon Yagisawa for teaching this feature.

Therefore, Yagisawa fails to teach or suggest “issuing an exclusive control command by said management server to multiple external storage systems, wherein said exclusive control command temporarily limits access to said multiple external storage systems such that said management server is the only control server that enables configuration setting of the data storage system” as recited in claim 12.

Furthermore, Yagisawa fails to teach or suggest “receiving by said management server configuration information from said external storage systems in response to said command” as recited in claim 12.

Even further, Yagisawa fails to teach or suggest “activating application programs of said multiple computers based on said exclusive control command issued by the management server” as recited in claim 12.

Both Axberg and Yagisawa suffer from the same deficiencies, relative to the features of the present invention, as recited in the claims. Therefore, combining the teachings of Axberg and Yagisawa in the manner suggested by the Examiner does

not render obvious the features of the present invention as now more clearly recited in the claims. Accordingly, reconsideration and withdrawal of the 35 U.S.C. §103(a) rejection of claims 1-9 and 12-14 as being unpatentable over Axberg in view of Yagisawa are respectfully requested.

II. Claim 16

Claim 16 stand rejected under 35 USC §103(a) as being unpatentable over Axberg in view of *VERITAS Volume Manager 3.1 Migration Guide* ("VERITAS"). This rejection is traversed for the following reasons. Applicants submit that the features of the present invention, as now more clearly recited in claim 16, is not taught or suggested by Axberg or VERITAS, whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims to more clearly describe the features of the present invention. Specifically, the claims were amended to more clearly describe that the present invention is directed to a control method of a data storage system as recited, for example, in independent claim 16.

The present invention, as recited in claim 16, provides a control method of a data storage system. The data storage system includes multiple computers and multiple external storage systems connected to a network. In addition, a management server is connected via a first network. The method includes a step of making an inquiry by the management server to a computer, the size of a file that application software of the computer uses, and receiving a response in point in time series. The method also includes a step of retrieving by the management server an

association between a logical disk unit and the file that was stored in the unit from contents of a configuration information database, and indicating a relationship between the capacity of the logical disk unit and the size of the file in point of time series. The prior art does not disclose all these features.

The above described features of the present invention, as now more clearly recited in the claims, are not taught or suggested by any of the references of record. More specifically, the features are not taught or suggested by either Axberg or VERITAS, whether taken individually or in combination with each other.

As previously discussed, Axberg discloses a method for producing a coherent view of a storage network by a storage network manager using data storage device configuration information obtained from data storage devices. However, there is no teaching or suggestion in Axberg of a data storage system and control method of a data storage system of the present invention, as recited in the claims.

One feature of the present invention, as recited in claim 16, includes a step of inquiring by the management server to a computer, of the size of a file that application software of the computer uses, and receiving in response in point of time series. As conceded by the Examiner, Axberg does not disclose inquiring about the size of a file that application software of the computer uses. Applicants agree that Axberg does not disclose this feature.

Another feature of the present invention, as recited in claim 16, includes a step of retrieving by the management server, an association between a logical disk unit and the file that was stored in the unit from contents of a configuration information database, and indicating a relationship between the capacity of the logical disk unit and the size of the file in point of time series. As conceded by the

Examiner, Axberg does not disclose retrieving an association between a logical disk unit and the file that was stored in the unit from contents of a configuration information database, and indicating a relationship between the capacity of the logical disk unit and the size. Applicants agree that Axberg does not disclose this feature.

The above arguments were presented in the previous Office Action. However, the Examiner did not provide any rationale for determining that that the arguments were not persuasive. Accordingly, if the Examiner persists in this rejection, Applicants respectfully request the Examiner to provide specific reasons as to why the above arguments are not persuasive.

Therefore, Axberg does not teach or suggest “inquiring by the management server, to a computer of the size of a file that an application software of said computer uses, and receiving a response in point of time series” as recited in claim 16.

Furthermore, Axberg does not teach or suggest “retrieving by said management server, association between a logical disk unit and said file that was stored in the unit from contents of a configuration information database, and indicating a relationship between the capacity of said logical disk unit and the size of said file in point of time series” as recited in claim 16.

The above noted deficiencies of Axberg are not supplied by any of the other references, particularly VERITAS. Therefore, combining the teachings of VERITAS with Axberg still fails to teach or suggest the features of the present invention, as now more clearly recited in the claims.

VERITAS discloses the use of a volume manager graphical user interface (GUI), a storage administrator, and a system administrator manager. However, there is no teaching or suggestion in VERITAS of a data storage system and control method of a data storage system of the present invention, as recited in the claims.

VERITAS discloses how to launch Storage Administrator from the System Administration Manager (SAM) (page 84), how to list disk devices in SAM (page 85), how to list volume groups and disk groups in SAM (page 85), and how to list logical volumes in SAM (page 87). With regard to the latter feature, VERITAS discloses selecting Logical Volumes from the Disks and File Systems SAM to list logical volumes. The Logical Volumes screen lists the LVM logical volumes and the VxVM volumes on the system. The "Type" column, as shown in Fig. 4-3, indicates whether a volume is in use and if so, what it is used for. Fig. 4-3 shows a Logical Volumes screen. As shown, the eight LVM logical volumes in vg00 are used for HFS and VxFS file systems and for swap and dump. The bells VxVM volume in the maroon volume group is used for the VxFS file system and has a directory mounted on it. Furthermore, the vo101 VxVM volume in the rootdg volume group is not currently in use.

One feature of the present invention, as recited in claim 16, includes a step of inquiring by the management server to a computer of the size of a file that application software of the computer uses, and receiving a response in point of time series. VERITAS does not disclose this feature. The Examiner concedes that Axberg does not disclose this feature, but asserts that VERITAS discloses the step of inquiring in the manner claimed. To support the assertion that VERITAS teaches the disclosed feature, the Examiner states that VERITAS "shows searching a file,

together with its size and metadata.” Notwithstanding the fact that VERITAS does not disclose searching a file, together with its size and metadata as alleged by the Examiner, VERITAS further does not disclose the claimed feature, i.e., inquiring by the management server to a computer of the size of a file that application software of the computer uses, and receiving a response in point of time series. As such, VERITAS does not disclose the claimed feature.

The present invention, as recited in claim 16 also includes a step of retrieving by the management server, association between a logical disk unit and the file that was stored in the unit from contents of a configuration information database, and indicating a relationship between the capacity of the logical disk unit and the size of the file in point of time series. VERITAS does not disclose this feature. To support the assertion that VERITAS discloses this feature, the Examiner cites page 87 and Fig. 4-3 and Fig. 4-12 (it is assumed that the Examiner is referring to Fig. 4-2 because there is no Fig. 4-12 in the reference). More specifically, the Examiner refers to the allocated file size in Fig. 4-3 and the size of the logical volume in Fig. 4-2. However, the cited text and drawings do not disclose an association between a logical disk unit and the file that was stored in the unit or a relationship between the capacity of the logical disk unit and the size of the file in point of time series, as claimed. As such, VERITAS does not disclose the claimed feature.

Therefore, VERITAS does not teach or suggest “inquiring by the management server, to a computer of the size of a file that an application software of said computer uses, and receiving a response in point of time series” as recited in claim 16.

Furthermore, VERITAS does not teach or suggest “retrieving by said management server, association between a logical disk unit and said file that was stored in the unit from contents of a configuration information database, and indicating a relationship between the capacity of said logical disk unit and the size of said file in point of time series” as recited in claim 16.

Both Axberg and VERITAS suffer from the same deficiencies relative to the features of the present invention as recited in the claims. Therefore, combining the teachings of Axberg and VERITA in the manner suggested by the Examiner does not render obvious the features of the present invention as now more clearly recited in claim 16. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejection of claim 16 are respectfully requested.

III. Claim 23

Claim 23 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Axberg. This rejection is traversed for the following reasons. Claim 23 is dependent on claim 20, and is allowable for at least the reasons previously discussed regarding independent claim 20. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references used in the rejection of claims 1-20 and 21-23.

In view of the foregoing amendments and remarks, Applicants submit that claims 1-20 and 21-23 are in condition for allowance. Accordingly, early allowance of such claims is respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Mattingly, Stanger & Malur, P.C., Deposit Account No. 50-1417 (referencing attorney docket no. 520.41229X00).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.

A handwritten signature in cursive script, reading "Donna K. Mason", is written over a horizontal line.

Donna K. Mason
Registration No. 45,962

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